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Foreign Agriculture

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WASHINGTON, D. C.

JULY
1951

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ALDRIN FOR IRAN

Foreign Agriculture

Vol. XV • JULY 1951 • *No. 7*

IN THIS ISSUE

PAGE

Cooperative Campaign Fights Iran's Locusts 139

Sheep Industry of Argentina's Patagonia . . 143

Technical Assistance and an Agricultural College 146

Agricultural Reporting in Latin America 148

An American Looks at Israel's Agriculture 151

Egypt's New Edfina Barrage 157

Netherlands Agricultural Policies—Part II 158

Letter from Paris 159

FRONT COVER

Aldrin for Iran

Drums of the powerful new insecticide aldrin being prepared at the Denver, Colo., airport for shipment to Iran to enter the fight against that country's most severe locust plague in 80 years. (Photo courtesy of *The Denver Post*.)

BACK COVER

Argentina: Sheep and Natural Regions

Only about a third of Argentina's 50 million sheep are in Patagonia, but they provide most of the fine apparel wool that is produced in the country.

NEWS NOTES

Iranian Locust Control Successful

Elsewhere in this issue appears a report on cooperation extended by the United States to control a plague of locusts in Iran. Just before going to press, the following later information was obtained, attesting to the success of the operation.

The United States, through the Point Four program of technical cooperation, furnished eight small airplanes equipped with spraying apparatus, nine pilots, one mechanic, and a technical adviser. Ten tons of a new insecticide, Aldrin, were used. The spraying operations continued from late April throughout May.

A report from William B. Mabee, technical adviser to the mission, said:

"Some 53,715 acres of crops have been saved in 18 different localities. The kill was 100 percent at the end of 4 days. The very life blood of these villages, these high value crops could have been saved by no other means than air spraying.

"We have been praised by landowner, peasant, and tribesmen alike, many riding great distances to tell us of the kill, others to request the planes in their own areas.

"The writer has never received such unquestioned, enthusiastic support as has been received here. It is the most difficult assignment the writer has ever had, but the by-product of good will and friendships that have developed are most gratifying."

As a gesture of friendship, the United States Government is giving the locust-control planes to Iran, complete with spraying equipment, so that the planes will be ready on stand-by basis to aid in controlling any future outbreaks of crop-destroying insects.

Credit for photographs is given as follows: pp. 139, 142, Edson J. Hambleton; p. 141, State Department; pp. 143–145, C. A. Boonstra; p. 147, Cornell University; pp. 151–153, 155, Israel Office of Information; p. 154, Ralph S. Yohe.

FOREIGN AGRICULTURE ALICE FRAY NELSON, EDITOR

A monthly publication of the Office of Foreign Agricultural Relations of the United States Department of Agriculture, Washington, D. C. The matter contained herein is published by direction of the Secretary of Agriculture as administrative information required for proper transaction of the public business. The printing of this publication has been approved by the Director of the Bureau of the Budget (November 1, 1950). Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., at 15 cents per copy, or by subscription at the rate of $1.50 per year, domestic; $2.00 per year, foreign. Postage stamps will not be accepted in payment.

Cooperative Campaign Fights Iran's Locusts

by EDSON J. HAMBLETON

With Iran, the United States was a participant this spring in a dramatic story that was a race against time and famine. Swarms of locusts were maturing in such numbers and with such rapidity along the Persian Gulf that they threatened to destroy food crops within a matter of weeks. The Iranian Government asked the United States for assistance. It was given immediately. Aldrin, a new insecticide, was flown to Iran from the manufacturing plant in Denver, Colo. Small airplanes equipped with spraying apparatus were loaded into three DC-4 Skymasters and flown, with their pilots, to Iran. United States technicians also made the trip by air. Within 3 weeks from the time of the request, the locusts were being attacked from the air. The control operations were highly successful, and farmers of Iran will have crops to harvest this fall.

The remarkable feature of this program, carried out as part of the Point Four program of technical cooperation, is the rapidity with which the project was outlined and the machinery set into motion. It demonstrated that nations can work together to meet emergency situations. The project indicated, too, the part that cooperation can play in the control of other insects that cut food production.

Iran had been conducting a well-organized program to combat locusts but the problem this spring was of such urgency that the Iranian Government asked the United States for assistance. The great need was for insecticides. Aldrin seemed to be the most suitable since it was available and had proved effective on related grasshopper species here. Too, it is highly concentrated and therefore could be transported quickly and economically. Altogether, the United States sent 10 tons of the insecticide, eight small planes with spraying equipment, eight pilots, one mechanic, and two entomologists. William B. Mabee, Division of Grasshopper Control, U. S. Bureau of Entomology and Plant Quarantine, Elko, Nevada, directed the technical phases of the project and remained in Iran until the work was terminated. I was the other entomologist accompanying the mission, and I remained there through the early successful stages of the campaign.

When the first Skymaster cargo plane landed in Tehran, in the afternoon of April 16, officials of both Governments and throngs of interested Iranians were on hand to greet its arrival. United States Ambassador Grady remarked that in all his years of government service he had never seen anything of this proportion accomplished with such dispatch.

We stayed in Tehran that night and on the following morning flew on to Abadan in southwestern Iran, the location of the Anglo-Iranian Oil Com-

William B. Mabee, U. S. entomologist (right), and Abbas Davachi, in charge of Iran's anti-locust control operations (left), pictured at the airport at Abadan.

Mr. Hambleton is Field Service Consultant in Entomology, Technical Collaboration Branch, OFAR.

pany. This was approximately 50 miles above the Persian Gulf on the Shatt-'Al Arab River, which here separates Iran from Iraq. That day the temperature was 103° F. in Abadan. Although considerable confusion and uncertainty reigned throughout the area on account of a strike in the refinery, we set up our headquarters without difficulty, met with the Iranian and British technicians, and worked out a splendid three-way cooperative program that prevented loss of time and enabled us to get into action without delay. The spray planes were assembled, tested, and flown to Bushire, some 200 miles southeast on the Persian Gulf. In an area north of Bushire, at Borazjan, the first test flights were made. This area was selected because the immature locusts were rapidly approaching the adult stage when they were likely to move northward into the more developed agricultural areas of the country. The new insecticide aldrin proved highly effective when sprayed at the rate of 2 to 3 ounces of technical material in 1 gallon of Diesel oil per acre. Fields of wheat, barley, and other vegetation including date palms, where heavy infestations of locusts occurred, were sprayed in the Borazjan area. Kills of 95 percent were reported by Abbas Davachi, in charge of anti-locust control operations for the Iranian Government.

These first operations proved that aldrin was effective on the desert locust and that this species *(Schistocerca gregaria)* could be controlled by spraying from aircraft, a method hitherto untried in that part of the Near East. The confidence that the Iranian officials and farm people demonstrated was gratifying. They felt that the project was proving worthwhile, that it was successful, and that it came in time to relieve their fears of more widespread devastation.

In the meantime, the remaining two cargo planes reached Abadan after considerable difficulties en route. During the week of April 22, all of the spraying planes were assembled. Five of them were flown to Du Gunbadan to the north of Gach Saran in the foothills of the Zagros Mountains. Here operations got under way in the Mishun area, a flight of 25 minutes by plane from Du Gunbadan, where the spray crew was quartered.

We had a great deal of help with the project. The highly important preliminary arrangements were made by Dr. Geib, our Agricultural Attaché in Iran. Much credit for the project's successful operation must also be given to the officials of the AIOC who contributed fuel for the planes, Diesel oil diluent for the insecticide, and transportation of both these items and the insecticide to the infested areas. Two English entomologists, O. B. Lean and Leon Jenkins of Plant Protection Ltd., both familiar with the desert locust in Iran, joined the combat forces in helping to locate the most strategic areas for control operations. English aircraft also played an important part in the over-all campaign by flying in several tons of benzene hexachloride for use in poison baits. They also transported personnel, equipment, and supplies to areas of field operations.

The Iranian anti-locust program was well organized. The area of infestation was carefully patrolled to observe locust movement and egg-laying. From 12 to 15 mobile units, for which the Iranian army supplied trucks, operated in patrol work and transportation of personnel and poison-bran bait. The local organization accomplished excellent results in further stamping out the plague. Its members gladly joined our airplane spraying force to work toward a speedy solution to the control problem.

This problem was especially acute this year, for the locust infestation was described as the worst in 80 years. In November and December 1950, large swarms of desert locusts flew into southeast Iran from Pakistan. They moved westward as far as the Persian Gulf, occupying a narrow strip of territory along the 30th parallel between 500 and 600 miles long and not more than 150 to 200 miles wide. Eggs deposited by the winged female locusts began hatching in March. According to officials of the Iranian Ministry of Agriculture, the actual area where eggs were deposited did not exceed from 400,000 to 600,000 acres. This spring brood, upon reaching the winged stage, would have migrated northward into the more productive agricultural areas, but we were able to destroy the locusts before they reached that stage.

Iran is not the only country that has this problem of locust control. For centuries, migratory locusts have been a menace to man's food supply throughout Africa, large areas of Asia, Australia, and the Americas. Only since World War I has the problem of locusts been considered anywhere from the scientific approach. In 1931 the concept of international cooperation as a means of combating locusts was first recognized. Locusts in mass migration move from one locality to another, from country to country. These widespread movements of locusts make it extremely difficult for any one country to contend satisfactorily with its own problem alone.

The small airplane being loaded was one of eight that were equipped with spraying apparatus and flown to Iran this spring in answer to that country's request for U. S. aid in its fight against migratory locusts.

In most countries affected by locust plagues, entomologists have conducted research on various species, their habits, flight movements, and methods of control. Severe outbreaks of the desert locust in 1930 prompted the British Government to set up a special research organization. This led to the first international locust conference, held in Rome in 1931. Representatives of Britain, France, and Italy and their colonies attended. Thus the British Anti-Locust Research Center was requested to serve as an international center for coordinating locust research and for collecting information.

Since then, several international conferences have been held, prior to and following the war years, except for periods when they were held on a regional basis. Delegates from approximately 25 countries were brought together to report on damages suffered from locusts and to set up control centers and organizations between groups of interested states.

International organization to cope with the vast problem that the desert locust presents requires full cooperation of at least 25 countries. Financial aid in this participation is not always possible. Nevertheless, progress has been made. The suppression of outbreaks in areas infested by the locust has been accomplished on the basis of surveys conducted in ample time to plan and execute effective control measures. Nonparticipating countries, realizing the effectiveness of carefully planned surveys in suppressing the desert and other locusts, have taken steps to cooperate. The red and African migratory locusts, as well as the Moroccan locust, present problems quite similar to those of the desert species. The chief method of locust control has been poison baiting—a mixture of bran and benzene hexachloride moistened with water.

The Government of Iran has for many years been an active participant in international locust conferences. Geographically, Iran is in a position that causes its people to be constantly alert in contending with the desert locust. Migratory hordes of winged locusts can sweep across the Persian Gulf from Saudi Arabia, or westward from Pakistan and India. Iran, Pakistan, and India maintain warning and control organizations in their own countries, while Egypt maintains a working team in Saudi Arabia in cooperation with British teams. There is constant apprehension that swarms appearing in these regions may cross over from one to the other. Many countries in the Middle East dependent on one another for effective control must work together toward a satisfactory solution to a problem that affects them all.

The new experiences gained in this spring's project should point toward greater success and interest in combating all species of locusts throughout the Middle East.

Iranian flag man guides pilot who is spraying a locust-infested field from the air.

Reading about... Foreign Agriculture

A Survey of Soviet Russian Agriculture, by Lazar Volin. Agr. Monograph No. 5, 194 pp., illus., U. S. Govt. Print. Off., Washington, 1951.

The first chapter of this new publication tells about the natural environment of Russia—its land and climate. Chapter II is a discussion of agricultural policy and land tenure, both before and after agriculture was collectivized. The third is a long chapter on the farm system—the collective, state, and individual farms, mechanization, and the machine-tractor stations. The following chapter tells about the machinery of government supervision, and the next one discusses farm practices—crop rotation and soil conservation, use of improved seed and of fertilizers, centralized planning, and research. Land utilization, the crop pattern, and livestock are subjects for the next three chapters. And the last three cover distribution and consumption of agricultural products in Russia, the country's foreign trade, and World War II and the postwar reconstruction program.

Brazil: Portrait of Half a Continent, edited by T. Lynn Smith and Alexander Marchant. 466 pp., illus. The Dryden Press, New York, 1951. $5.75.

This handsomely illustrated volume is broad enough in scope to be of interest to people in many different fields. It covers Brazil's history, geography, population, culture, economy, institutions, and civilization. The volume is the result of the cooperative effort of nineteen authorities on Brazil—about half of them Brazilians and the others North Americans.

Sheep Industry of Argentina's Patagonia

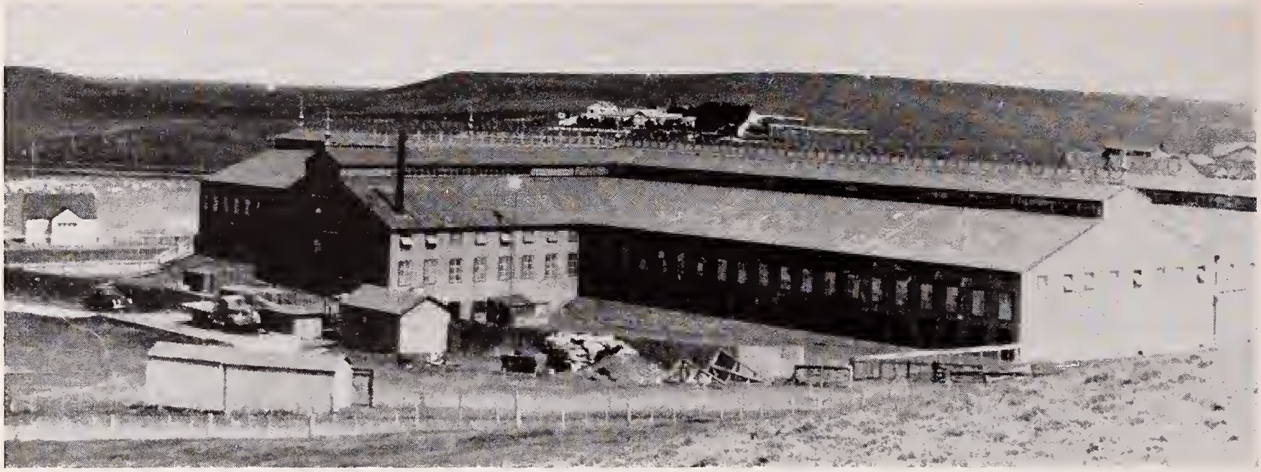
by C. A. BOONSTRA

With booming wool markets and international stockpiling, the sheep of Patagonia are providing a harvest that, with little exaggeration, can be termed that of the golden fleece. Wool that sold early in 1950 at a profitable $1.00 (U. S.) a pound in Buenos Aires has this year brought the all-time record of $2.00, a windfall equal to many years of ordinary profits.

Although only a third of Argentina's 50 million sheep are in Patagonia, they provide most of the fine apparel wools for export and for the country's expanding textile industry. Sheep in Buenos Aires Province and in other northern areas are predominantly the medium- and coarse-wool breeds. In Patagonia, the predominant breeds are Corriedale, Merino, and Romney Marsh.

Patagonia is a bleak land, stretching lonesomely southward from the narrow desert strip near latitude 39, which walls off the region from the cattle, crops, and cities of Argentina's fertile pampa. All the way into Tierra del Fuego, south of the windy Straits of Magellan, the few scattered residents depend mainly on sheep, and little else, for their livelihood.

Mr. Boonstra is Agricultural Attaché, American Embassy, Buenos Aires, Argentina.



Sheep ranches in Patagonia are operated on a large scale. The one pictured here covers more than 100,000 acres, has an elaborate farmstead (in background), and a shearing shed (in foreground) in which 170,000 sheep are sheared each year.

The harsh desolate character of the range appears most evident midway in Patagonia near the border of Chubut–Santa Cruz territories, a region with promising recent developments in petroleum and natural gas. Here the lands are eroded, dry, and swept incessantly by winds. Pastures and climate improve toward the south, and, in contrast to central Patagonia, even the cold stormy shores of the Straits of Magellan appear hospitable, particularly on the far side where flourishes the southernmost agricultural industry of the world.

The incessant wind, often rising above 70 miles per hour, is a major hardship of life in Patagonia. Homes are huddled behind towering wind breaks, which reduce somewhat the cold blasts and protect the trees and gardens, which contrast so sharply with the otherwise bleak landscape. Hardy vegetables including cabbage, turnips, lettuce, and carrots are the principal garden produce, but there are also strawberries of excellent character and a brief season of spring flowers.

Tierra del Fuego, the land of fire, owes its name to the numerous Indian campfires seen by early mariners along its hostile shores. Missionaries established the first settlements in the 1870's, and sheep followed soon thereafter. Exposed to weapons and diseases of white men, the Indian population dwindled rapidly, leaving the island largely to sheep and their herders.

Winters are long in Tierra del Fuego, but the climate is less severe than in central Patagonia, since extremes are moderated by surrounding sea water. Principal sheep areas are located in the plain that slopes northeast from the mountains and channels of the south. The area is split by the Chilean–Argentine boundary, which places the two principal ports, Rio Grande and the Ushuaia naval station, within Argentine territory. Tides are high and currents are dangerous; at Rio Gallegos, just north of the Straits, small ships are frequently beached 40 feet above the water between tides.

Sheep winter in valleys of the open range, protected somewhat by a low shrub called mata negra, or in the low forest growth of the southern foothills (the monte). The best wool in Tierra del Fuego comes from sheep wintering in open valleys, as monte wool is contaminated by leaves, twigs, and vegetative material, but survival of sheep is better in the foothills. Water in Tierra del Fuego is rarely a problem since fast-flowing streams are numerous, supplemented by springs and lagoons. Water supplies as well as rainfall are far better than on the mainland of Patagonia, where 5 to 10 acres are necessary to carry one sheep. Much of the range in Tierra del Fuego carries one sheep to each 2.5 acres.

Principal range vegetation is a hard bunch grass called coiron, not particularly palatable in summer but invaluable in winter when tips show through the snow, providing feed as well as guiding sheep to grass underneath. In summer, feed for fattening is furnished by seasonal soft grasses.

On the Argentine side of Tierra del Fuego, sheep are centered about the port of Rio Grande, numbering about 700,000 in recent years and yielding annually about 3,000 tons of high-quality wool. All of the range is fenced in paddocks varying between 1,000 and 20,000 acres, reflecting the characteristic large-scale operations of ranches having 125,000 to

500,000 acres each. Although wool is by far the chief business, the annual marketing of lambs and old ewes became important after an export freezing plant was established at Rio Grande, providing an outlet for 300,000 head annually, which previously had no value other than their pelts. Because of their hardiness and higher meat yields, Corriedale and Romney Marsh have replaced Merino as the predominant breeds.

Shepherds, in their isolated stations, are occupied from spring through fall with lambing, shearing, dipping, and breeding and spend the dark winters trying to minimize death losses. The principal winter hazards are sleet and ice, which prevent the sheep from reaching under the snow for feed. Ewes are rounded up for breeding in May, just before winter sets in, and lambs are dropped in September–October. Sheep are sheared in January, sent to slaughter late in February and March, and dipped in March. Diseases and parasites are reported to be of little importance, partly because weakened animals rarely survive the severe winters.

In one of the largest and most efficient shearing sheds in the world, at a principal island ranch, sheep are clipped at the rate of 6,000 a day. Forty clippers work simultaneously from individual covered pens, tossing fleeces on conveyors that transport them to tables for skirting, tying, and classing. Within moments after clipping, the fleeces are pressed hydraulically into bales averaging 310 kilos (about 685 pounds) and containing about 70 fleeces each. Workers in the sheds are mainly Chileans who enter Argentina during the shearing season.

Tierra del Fuego is a principal nesting ground for South America's ducks and geese, congregating in unbelievable abundance during summer. Geese increased after the sheepmen destroyed foxes, their natural enemies, and now are considered a serious pest because of their grass consumption. Ranchers estimate that six geese eat as much as one sheep, and therefore make special efforts to destroy them. Guanaco, a low-altitude relative of the llama, is still fairly common; it was once the principal source of meat and clothing of the Indians. The fast-flowing, clear streams are heavily stocked with large brown, rainbow, and brook trout, all of which have thrived extraordinarily since their original introduction 15 years ago.

Notwithstanding the incentive of large wool profits, there appears little opportunity for expansion of sheep number in Southern Argentina to help meet emergency wool requirements. Wind erosion and drought are ever-present, and overgrazing is already evident, judging from the comments of oldtimers regarding pasture conditions a decade ago. Sheepmen generally are aware of the growing damage to ranges and show little inclination to increase their flocks.

Shearing sheep at Tierra del Fuego; 40 sheep can be sheared simultaneously in this plant.

Technical Assistance And an Agricultural College

by C. W. CHANG

Technical assistance, as now promoted by the United Nations and its specialized agencies and by the United States, is nothing new to China. In the 40 years since the establishment of the Republic in 1911, many of China's government organizations and training institutions have received some kind of technical assistance from the League of Nations and certain advanced countries. But what seems to have been the most effective, economical, and lasting is the technical assistance that the College of Agriculture and Forestry of the University of Nanking received from Cornell University, New York, for a period of 6 years from 1925 to 1931 in the development of a famine-prevention program for China. Since then the College has become the leading college of agriculture and the backbone of agricultural improvement in the country. As a matter of fact, it has become a college of colleges, for it is used to help train teachers for many other agricultural colleges in the country. Hence a brief review of how the technical assistance was obtained, how it was utilized, and what specific effects it had on the improvement of agriculture in the country as a whole might be of some value to the operation of the present expanded technical assistance program.

China is sometimes known as a country of famines because of the frequent recurrence of drought in the North or floods in Central China. It was the foresight of Dr. J. H. Reisner, then Dean of the College, that was responsible for starting a program of famine prevention by improving agricultural production and by training personnel to do it, with the surplus relief funds he helped to obtain for the College from the Famine Relief Committee of America. To launch the program properly and to insure its successful operation, the College entered into a triangular form of cooperation with Cornell University and the General Education Board of the Rockefeller Foundation for a period of 6 years. Cornell University arranged to send a team of three senior professors—Dr. H. H. Love (now doing plant breeding work in Thailand under the Point Four Program), Dr. C. H. Myers, and Dr. R. G. Wiggans—from the Department of Crop Improvement to Nanking, one at a time, each for a year. Then each one served a second time. Half of their salary was paid by the University and the other half and their travel expenses to and from China were borne by the General Education Board; their expenses of maintenance in China were met by the College.

Dr. Love was the first visiting professor to go to Nanking. It was he who helped to shape a long-range crop-improvement program for the College and to lay a solid foundation for future development. In addition to the main crop-improvement station in Nanking, the College had established four substations in North and Central China in cooperation with local churches and training institutions. For such cooperation, the College provided budgets and personnel and directed the work, while the cooperating organizations made farm land available and in some cases buildings for offices and farm work. Very soon there came into existence a large number of cooperative crop-improvement stations in North, Central, and South China, which were conducted in cooperation with government organizations, training institutions, and local organizations. For these stations, the College was responsible for recommending technicians to take charge of the work and for providing adequate supervision. Each station, depending upon the size of its staff and budget, undertook to improve one or two, or at most three, of the major crops in its locality. By 1937, 36 new strains had been developed from 8 of China's leading crops, such as wheat, rice, cotton, soybeans, barley, millet, kaoliang, and corn, and 27 of them were in wide distribution through a network of seed multiplication centers selected by the College in different parts of the country.

Thus the crop-improvement work in China was for the first time put on a scientific basis.

Dr. Chang is an agricultural officer of the United Nations Food and Agriculture Organization. For a number of years, he was Dean of the College of Agriculture and Forestry of the University of Nanking.

The importance of training personnel can never be overemphasized. The College provided about a dozen of its staff members to work with the visiting professors in Nanking—professors, lecturers, associates, and assistants. Every year tens of thousands of single-head selections were made of several crops in Nanking alone. They were individually studied in the laboratory and tested in the field. Each school term, these professors offered advanced courses on plant breeding to the upper classes of students in the College and seminar courses to the teaching staff. During summer or winter vacations, short-term training courses were provided for outstation technicians, who came with their field records for analysis and their next year's planting plans for approval. During the growing season, inspection trips to these outstations were made at definite intervals. In this way the methods of crop improvement for the country were standardized and technicians were able to compare their notes. Because of the living link with Cornell University, many plant breeders obtained their advanced training in that great institution of learning. In China today, there are no less than 250 plant breeders who can do independent work.

In 1940, a survey that was made of about 400 Chinese agriculturists with some advanced training in America and Europe indicated that 44 percent of them were graduates of the College. In 1944, out of 168 holders of the lend-lease scholarships selected by competitive examinations, 42 percent were graduates of the College; 19 of them were then staff members of the College. The College was spending 50 percent of its budget for research, 30 percent for instruction, and 20 percent for extension. In 1941, there were about 150 people on the staff. The College instruction is divided into postgraduate, undergraduate, and 2-year extension training courses. The total enrollment of students is kept at 500. To date, 2,500 students have graduated from these courses. A survey, made in 1937, indicated 95 percent of them were engaged in the work for which they were trained. There is no doubt that the work of research and extension of the College helps to make its instruction both practical and substantial. The demand for its graduates is always in excess of supply.

The College has been looked upon as a major source of training for agricultural teachers and technicians in the country. In 1945, seven leading agricultural colleges had Nanking people as deans. Three out of five National Research Institutes and five out of seven technical departments in the

Cornell University, a pioneer in agricultural technical assistance.

Ministry of Agriculture and Forestry of the National Government had Nanking people as directors. Certainly it is a rare exception in the country if there is an agricultural organization that has no Nanking people working in it.

From the above brief review, the following comments can reasonably be made:

Agricultural improvement is necessarily a slow process requiring years to achieve desired objectives. The result, however, is sure.

Cooperation with a training institution or a research organization in an advanced country is the only way to obtain expert service and to have it on the long-term basis necessary for insuring the continuity and success of a project. Assistance for 6 months or less than a year is in most cases a waste of time and money. Obtaining assistance for a certain project from several different organizations or countries is often confusing. The best way is to get a team of experts from a selected institution or organization who can stay until the project is completed or can be taken over by the local staff.

Personnel training is a project that should get top priority in any developmental program for an underdeveloped country. The word "underdevelopment" often implies scarcity of trained personnel.

The receiving government should see that there are a number of local staff members to work with each expert invited so that the staff can continue the work when the expert leaves. It is not uncommon to provide an expert with a typist and an interpreter. That is all. It certainly is not the way to utilize expert service to the best advantage.

The underdeveloped countries may be backward in some aspects, but they have had certain experiences that have been developed through centuries and may be of value for thought and exploration. The contacts made with local people and the experiences gained by working among them will help the experts in their teaching of foreign students in their own institutions when they return. In this and many other ways, such cooperation will prove advantageous to the institutions that send experts to underdeveloped countries.

Agricultural Reporting in Latin America

by JOSEPH A. BECKER

Statistics of agricultural production, trade, and prices are particularly pertinent in South America because of the great importance of agriculture in its countries. Currently, technical assistance and other developmental programs that are being planned and carried out in those areas lend added need for adequate statistics.

This need has been stressed at every session of the Conference of FAO. Members have said that "one of the major problems to which FAO should give attention is developing a system of current reporting of statistics which will be adequate to meet current emergency situations and also to serve as a basis for a long-range program of statistical reports on food, agriculture, forestry and fisheries."

Such statistics have innumerable practical uses. Crop reports, for example, are highly valuable to both buyer and seller, to say nothing of the consumer. Take coffee, for instance. When the crop is short, it is to the interest of both buyer and seller to know as closely as possible and as early as possible how short it is. Such knowledge leads to establishing the most equitable price. A crop reporting program to supply forecasts and estimates as the coffee crop matures does not exist at present. It could be developed in a few short years to provide this valuable information for the mutual benefit of all countries of the Western Hemisphere.

On a world-wide scale, substantial progress has been made over the years in improving the statistics of agriculture. The International Institute of Agriculture, headquartered at Rome, did a pioneering job in this field beginning in 1907 and continued its activities on a broadening though a conservative scale until the establishment of FAO in 1945. FAO has continued to work in this field through the cooperation of the member countries. The Inter-

Mr. Becker is Chief, International Commodities Branch, OFAR.

American Statistical Institute has made a significant contribution by enlisting the support of the various governments in the Western Hemisphere in the whole field of statistics and in keeping before them the importance of the statistical measurement of progress. The contributions that they have been able to make in the agricultural statistics field, however, have not as yet been great.

A significant development sponsored by the Inter-American Statistical Institute has been the Census of the Americas in which FAO has participated in the agricultural field.

The Committee on the Census of the Americas is composed of working members of the governments of the Western Hemisphere countries who have kept in constant touch during the past 5 years, traded experiences, discussed problems, and worked out experimental solutions of some of them. During recent years also, we have seen an unprecedented exchange of technicians between the countries of the Western world.

Let us consider for a few moments some of the things that need to be known about agricultural production and developments in the Latin American countries: Estimates of the number of animals kept on farms, acres planted and harvested, production of crops and livestock products, processing of agricultural commodities, stocks of commodities on hand at various times during the year, prices of agricultural products and agricultural trade between countries.

More timely from the standpoint of utility of figures are the forecasts of these items. Forecasts are important to the individual as a basis for determining time and conditions for selling his products, for buying supplies, and for facilitating the distribution of products. Statistics of agricultural developments are important for official use as a basis for advising farmers as to sales and shipments where the government has an interest in specific commodities and as a basis for the determination by the government of its policy on sales and purchases. Agricultural statistics are important for official use in protecting the economy of the countries when embargoes, quotas and other acts are in the national interest.

How is crop reporting and the preparation of agricultural statistics accomplished? In the United States, it is done by a large staff that gathers information from all segments of the agricultural industry—from farmers, merchants, processors, official state and county records, customs records, and so forth. The organization in the United States had a small beginning and I know that the experience in other countries has been similar. A few countries have not attempted to establish a service, probably because the minimum program suggested appears beyond their capacities and finances. If I were asked to suggest the steps by which an agricultural statistical service could be developed, I would suggest approaching the problem in the following manner:

1. An agricultural reporting service should be started modestly, doing the easier things first, such as reporting currently the development of crops during the growing season. This can be done with the help of a relatively few people scattered over the country.

2. I would make it an unfailing rule to publish promptly and frequently any information that has been collected so that national interest may be stimulated and maintained. There is no useful purpose to be served by gathering information and placing it in filing cabinets. There is such a universal interest in agricultural development, particularly in countries where agriculture is predominant in the economy, that even small scraps of information prepared by official agencies command attention.

3. I would suggest the development first of a program on commercial crops, that is, the crops that move in considerable quantity from the farms to markets for consumption in the form in which produced or for processing. I would do this because the data for a reporting service on such items are more useful. Because these commodities enter into trade, the producers are concerned about prices and find means of utilizing information on supplies in connection with their price bargaining and in making decisions on where and when to sell their products. There is this further point—statistics on commercial crops are easier to obtain. Quite often the commodities pass through a limited number of hands on their way to market and it is possible to obtain information on total quantities moving into trade, which in turn throws light on total quantities produced.

In developing a crop reporting service, it is necessary to study the possible sources of information about each subject and develop a suitable method of obtaining the information. The methods used will often vary greatly, not only between the countries but also between segments of the economy within the country and between commodities within the country.

We hear a great deal about sampling in connection with crop estimating. In the United States a number of kinds of sampling procedures are followed. Some information is collected by mail; other information is derived from enumerated samples of several kinds—random, stratified, and area samples. All types are being used in one place or another in Central and South America. An obvious advantage of using the sample method is the lower cost per unit of the final product. Within a given budget, it is possible to cover a wider range of subjects and to cover them more frequently than if an attempt is made to approach the problem by census methods. Further, the results can be prepared much more quickly and are more useful to individuals and governments alike because of their greater timeliness. It is possible to determine the relative scarcity or surplus of a commodity before the marketing season for that commodity has passed. A crop reporting service that neglects to develop statistical series that are immediately useful by the public will not prosper; it will fail to maintain the public support that is essential to successful development.

An integral part of a successful service in the field of agricultural statistics is the faithful recording of specific data of whatever nature. Even fragmentary information picked up in casual conversation with people who know the facts, can, if properly recorded, serve as a basis for agricultural estimates, not only for the current year but for later years as well, when it becomes necessary to make comparisons between years in order to arrive at a measure of what has transpired in the interval. This leads naturally into the basic principle of statistics—often it is necessary to collect information over a period of years before sufficient background is available for use in forecasting, and forecasting is one of the important objectives of an agricultural reporting service.

In the Western Hemisphere, we need to have a continuation of the exchange of ideas and the training of young men in the crop reporting field that has been going on for the past 5 years, with emphasis on the agricultural census. Each of us can learn something from the other. It is as important that agricultural statisticians get together for an exchange of experiences as it is that agronomists or entomologists should get together to record their progress. The field of crop estimating is an interesting one, but the problems of successful crop estimating are numerous, and the statistician learns from trial and error which of his approaches to the ascertainment of facts is most likely to yield satisfactory results. Like so many other technical pursuits, experience develops facility in the work. In the Western Hemisphere and particularly in Latin America, we need more individuals who are willing to make crop estimating and agricultural statistics their life work. Only by some continuity of service and of personnel can a program of agricultural statistical and economic information be developed.

Agricultural statistics serve a useful purpose in guiding the thinking and actions of individuals, government officials, and administrators and must be so conducted as to establish a reputation of precision and accuracy. In addition to employing the best technical approaches to ascertaining facts, there is an element of integrity involved in faithful reporting of the facts that is essential to successful development. To this end the agricultural statistician must be permitted to work with reasonable freedom from pressure to alter the facts in the light of external conditions. If an unfavorable event has taken place, it is better that all should be aware of it and face the situation involved. In the long run the facts will come out, and the eventual result of any attempted deception will be to discredit the work of the agricultural statistician and destroy the future usefulness of his work.

In most of the countries of the Western Hemisphere, 1950 agricultural censuses are in progress, have been completed, or are in contemplation. The time is opportune to make the best use of the information collected, not only because these data establish mileposts in the record of agricultural developments, but also because they offer a basis for a more frequent recording of progress in the way of annual or other periodic crop estimates. The time is opportune, therefore, to improve or establish crop and livestock estimating services in various countries and for making arrangement to utilize the results of the census in setting up weights and sample enumeration areas, or even for using the individual returns as a basis for comparison with future voluntary returns from the same farms. In some countries the crop estimating work is carried on by an agency that has had the direction of the agricultural census. In such cases it would seem that the utilization of the census data as a basis for crop estimating should be extremely simple. In other countries, crop estimating is done in the Department of Agriculture and the census is taken by a central statistical agency. This seems an appropriate time for the officials of the various agencies to get together in planning a program in which the maximum use of the 1950 Census of the Americas will be made.

An American Looks at Israel's Agriculture

by RALPH S. YOHE

The biblical land of Israel is experiencing a rebirth. I wanted to see what is going on in this ancient land, so I visited that old yet new nation. Everywhere, I found that the country is building. At the edges of cities, modern apartments and new factories are mushrooming. In the country, workmen are busy building new settlements and farm buildings. Construction crews are repairing roads and streets while other crews build highlines and string telephone wires.

Out in the country, American-made tractors, large combines, and the latest farm equipment move across the fields. To date, Israel has imported more than 600 combines, 1,500 tractors, and about 400 balers. This is less than half of the machinery they expect to buy in the next 4 years. To further its expansion, Israel recently negotiated a $135-million loan from the Export-Import Bank.

Learning to operate a tractor. Modern machinery is replacing simple, traditional farming equipment on many fields of Israel.

Nursery in Israel. Jerusalem pines are being prepared for transplanting.

Just as important to the agriculture of Israel as the widely publicized communal farm, are the cooperative communities and the individual farmers. One of the many cooperative communities that I visited was Beth Yizchak. Here in the form of a T, nestled among date palms and orange trees, are white, red-tile-roofed cottages of the farmers.

But let us visit one of the typical farmers of Beth Yizchak. Joachimsthal Erwin and his wife came to Beth Yizchak from Berlin in 1939, just before the war. Erwin was a businessman. In the new community of Beth Yizchak, Erwin had enough money to make a partial payment for his farm. By United States standards, his farm is small—only 6 acres. But with irrigation on the fertile plots, he gets big yields of carrots, cabbage, and other vegetables. Israel hopes to build a large export trade in fresh vegetables to Europe. And a small irrigated pasture furnishes grass for his calves. He keeps eight milk cows. Milk is badly needed in Israel, which produces only 60 percent of its own needs. To stretch the milk supply for city workers, American powdered milk is added to the fresh milk produced on Israeli farms. The cows do not graze. Each day freshly cut green forage is brought in for them.

Hidden away behind the attractive cottage are the poultry lots. Here we saw 600 White Leghorn laying hens. Israel produces 300 eggs yearly per person, about 80 percent of its needs. In addition, we saw 400 young broilers in batteries.

Across the road from the cottage, we visited the new community center and the cooperative hatchery

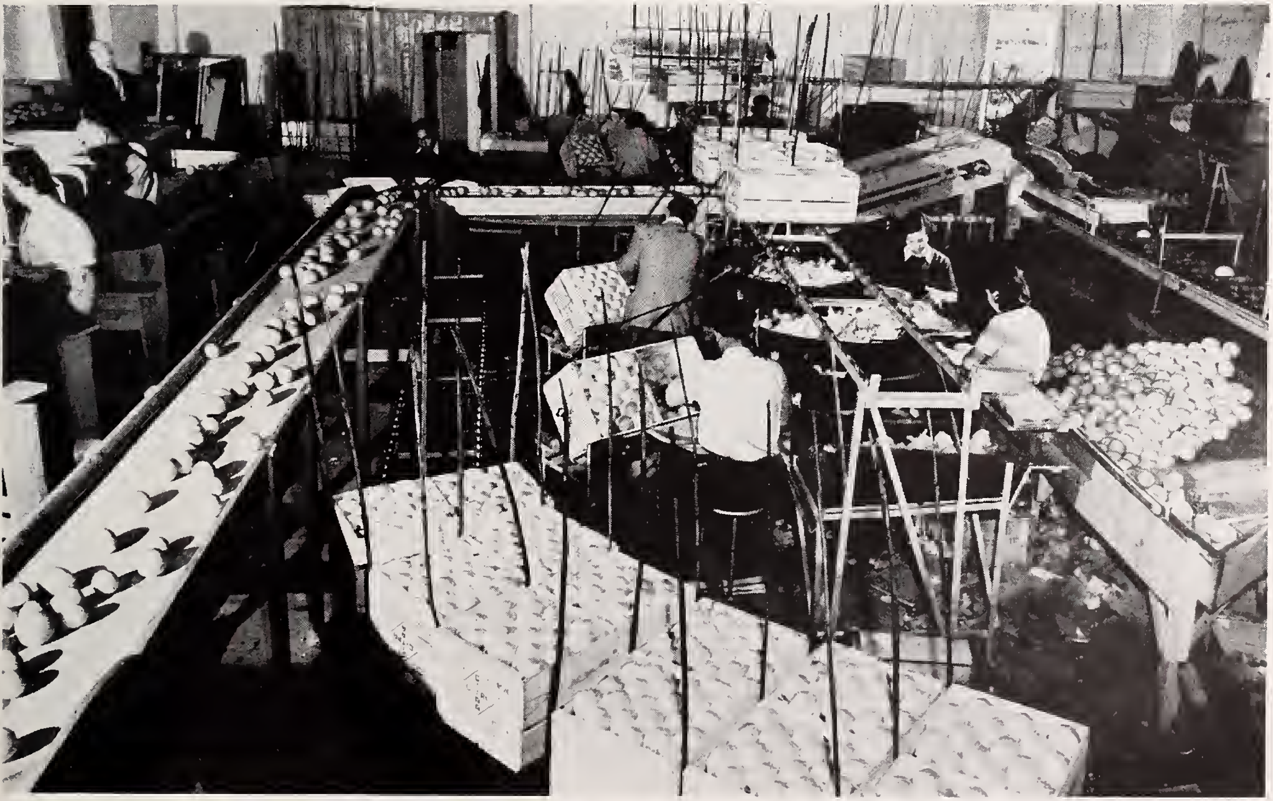
Mr. Yohe is an editor of *The Prairie Farmer* magazine, Chicago, Ill.

to which Erwin brings eggs from his farm for hatching. He buys his feed from the cooperative mill, his groceries from the cooperative store, and he sells his milk, vegetables, and eggs through the cooperative marketing association. From these cooperatives, enough money is collected to run the community center and the school and to furnish veterinary service from the community-hired veterinarian. Buying and selling through the community-owned cooperatives are compulsory in the cooperative community. The landowner, with his family, must also work his own land. He cannot hire labor. There are no tenant farmers in Beth Yizchak.

The widest known type of Israeli farm is the kibbutz, the communal farm. To visit one, I headed inland from Haifa, up to Jezreel Valley, with a Jewish Agency staff member who was spending the weekend in the communal farm of Beth Hashita. The Jewish Agency helps set up and finance new settlements. Along the road, we passed settlement after settlement snuggled among orange groves and cypress trees. Many of the communities are located on flat, rich, drained land, once malarial swamps. Other communities cling to the foot of mountains. Soon the land became more open and settlements farther apart. Much of the vacant land was once Arab-owned. Some of the Arab land, leased by the government to nearby settlements, was green with young wheat and barley, part of the government's program to increase the supply of wheat and cereal grains. At present, Israel produces only 15 percent of its needs of grains for bread and livestock feed.

This deserted land is being sold to the Jewish National Fund, a semiofficial developmental organization held over from the days of the British Mandate government in Palestine. In 1949, JNF bought 137,000 acres, making its total holdings nearly 350,000 acres. New settlers cannot buy this land. It is leased to them for 49 years with automatic renewal to them or their children so long as they meet the qualifications of their community — to live on the land and work it themselves. Only land individually owned before Israel became a state, or land owned by the Arabs who stayed during the war, can be purchased outright. Such land is limited.

Keeping the hills of Nazareth, boyhood home of Christ, to our left, we drove down the broad valley toward the Jordan. Nazareth is still under military rule. Few Arabs fled from Nazareth. To the 35,000



Wrapping and packing oranges in an Israeli packinghouse. Citrus fruit makes up about 40 percent of Israel's total exports.

Children on a communal farm in Israel. In these communities, children do not live with their parents but share quarters with other children.

Arabs in Nazareth have been added some 5,000 Arab refugees from the surrounding country. A few days later near Nazareth we saw Arab farmers in flowing robes plowing the eroded hillsides with crude wooden plows, sometimes hitched to a small donkey and an equally small cow. This scene contrasted sharply with American tractors and big disk plows rolling across the nearby valleys.

It was suppertime when we arrived at Beth Hashita. To our back, towered the Gilboa Mountains, mentioned in the Bible, and in the far distance the domed top of Mount Tavor. Already groups of men and women in boots and high-topped overshoes were moving in and out of the communal dining hall. For, in the communal farm, everyone eats the plain, substantial food together on long, wooden tables in the large dining hall. The children have their own dining hall nearby. The following day I visited the children's quarters. The children live in their own nurseries and visit their parents in the evening. Each man and wife have their own room. In large, airy classrooms, that would put many American classrooms to shame, the children study during the daytime. At night they sleep in their own rooms with tot-size furniture and bathroom fixtures.

The next morning we tramped out through the thick, pasty mud to look at the knitting and carpentry shops, the barns and machinery shed. We arrived in the Jordan Valley—the Jordan River was only a few miles away—in the middle of the rainy season. Later in the year, overhead sprinklers are needed to keep the vegetables, grains, olives, and fruits growing during the hot dry season. Two hundred feet below sea level, the area is hot enough in summer to grow bananas.

Each night a committee of the kibbutz members assigns the members to various jobs. Each morning crews of workmen go out to work on the 4,000 acres of crop and orchard land. Some of them tend the 25 acres of fish ponds where carp are produced for the community and to increase the meat supply of Israel. In the barns we saw long lines of high-producing Dutch milk cows, resembling our own Holsteins. Israel last year imported 5,000 Holstein cows from America. In the sheep barn we saw special platforms used to milk the fat-tailed native sheep. The rich milk, containing about 10 percent fat, is used to make tangy native cheese.

The machinery shed was full of new American-made tractors, combines, cornpickers, power-take-off balers, and cultivators. Workmen had just unboxed a heavy disk plow that arrived the day before.

Several American youth were apprentices on the farm. They had been there about 6 months. Most of them were from larger cities. They had come because they felt the kibbutz was the answer to social ills.

No one draws a salary on the kibbutz. The kibbutz furnishes clothing, food, and even cigarettes to the members. It has its own doctor and pays all hospital bills. The communal farm is one of the oldest types of settlement in the new Israel. Dagania, on the Sea of Galilee, is 40 years old. More recent is the cooperative community where each farmer farms his own land and pays for the things he needs and buys. The founders of the kibbutz were largely idealists who came to Israel to carry out their ideals.

Members of the cooperative communities say that individual farms supply the incentive of private ownership lost in the communal farm. True, the products produced per hour on the communal farm are not impressive by American standards.

Many new immigrants to Israel now come from eastern Europe, countries controlled by the Russians. They do not like anything that resembles collectivism. Communal farms do not appeal to them.

Sometimes forgotten in Israel's planned economy is the private, individual farmer. He produces about 50 percent of the agricultural products, more than 80 percent of the oranges, lemons, and other citrus fruits. Citrus fruits make up about 40 percent of the total exports of Israel. There are no long-term, low-interest-rate loans available to individual farmers, such as the Jewish National Fund provides for communal and cooperative communities. Israel has no production credit association. Individuals must borrow money from private banks at 7-percent interest or more.

Water is the great need in Israel. Everywhere, from the orange groves along the flat coastal plains to the vegetables in the rich Jordan Valley, irrigation is needed. Only the dry-land farming areas need no extra water. With small farms, in this small country —about the size of the State of Maryland—intensive cropping must be done to furnish food for the rapidly growing population. Israel's population has skyrocketed since the end of the British Mandate government—from 650,000 people to more than a million. During the first 10 months of last year, 131,000 streamed into the country. Eventually Israel will have a population of around 3 million people.

To see Israel's most ambitious irrigation project, I traveled south to the Negev desert. The Negev

Drilling for water near Elath. The search for water is never-ending in Israel.

contains about 3 million acres of land, about half of the total area of Israel. Here the Israelites hope eventually to place 300,000 immigrants, one-fourth of the total population, including the large city areas of Haifa, Tel Aviv, and Jerusalem. Covered with deep fertile loess soil, the bare, arid, rolling hills of the Negev desert lack only water to grow heavy crops of vegetables, fruits, and grains. Much of Negev has only 4 inches of rain, or less, annually.

North of the ancient Philistine city of Gaza, now held by the Egyptians, I saw a new pumping station with huge electric pumps pouring needed water through the 6-inch pipes to fields. Crews along the road were following the latest American-made ditch diggers, laying a long line of 21-inch water pipe that will bring water as far south as the principal city of the Negev, Beersheba, where the flocks of Abraham watered centuries ago. A complete factory, imported from United States, will soon turn out 60-inch concrete pipe for an even bigger waterline from the Yarkon River near Tel Aviv, 70 miles north, to the very heart of the desert. Principal inhabitants of the desert today are the 15,000 Bedouins, who roam over the Negev with their flocks of sheep and camels, moving their black goat-hair tents along with them and tending small fields of wheat and barley for a little grain to be buried in straw-lined pits for their use during the long winters. South of Beersheba—the name Beersheba means spring of the seven—I saw experimental settlements that collect water from flash floods in huge 9-million-gallon, asphalt-lined reservoirs. This water plus that from deep wells is carried in irrigation ditches out to the fields of vegetables, dates, fruits, and flowers. Cut flowers are flown to England and Switzerland. The Israelites hope to develop a steady export trade in cut flowers.

But Israeli agriculture faces many problems. Foremost among them is the absorption of the huge number of immigrants, some of them now living in sprawling tent cities, more of them yet to come. At present about 18 percent of the immigrants wind up on the land. Buildings and equipment are needed to put these people to work. Most of them come with little more than the tattered rags on their backs. Many of them are old; many of them are sick from hunger and long exposure.

To rebuild itself and care for its people, Israel has had to make huge imports, not only of machinery and equipment but also of food and feed. Today its exports are only a fraction of its imports. The difference, it has had to borrow. In 1949 Israel produced only 15 percent of the grain needed for bread and feed, 90 percent of the vegetables, 80 percent of the eggs, and 60 percent of the milk used. While it may be possible to buy some things, such as wheat, cheaper in countries like the Americas, than produce it at home, nevertheless Israel must eventually export enough products to pay for its imports or it will find itself like a family that cannot live within its income. In the near future, Israel hopes to produce 50 percent of its grain and enough milk and eggs to feed itself and export quantities of citrus fruits and vegetables to Europe.

Most important of its exports are oranges, lemons, and other citrus fruits. It ships between 5 and 6 million cases a year. This is about a third of its prewar trade. Nearly 50 percent of the groves were owned by the Arabs before the war. Many of them are now half dead. About 40 percent of the Arab-owned groves have been restored at great expense to the government. Many of these have not yet returned to production.

A big problem, yet unsolved, is the 125,000 Arabs, most of them farmers, many of them refugees, who remained in Israel. With a low living standard and primitive methods, they produce about one-fourth of the agricultural crops.

The present irrigation projects necessary for the development of the country will take enormous outlays of capital. In addition, capital is needed to build new communities and new factories badly needed in Israel.

Even if Israel can borrow the money, it will be necessary to keep the investments within the limits that the country can afford to pay interest on. It is estimated that to keep each new immigrant employed, it takes between $2,500 and $5,000 to make necessary investments in housing, factories, and agriculture. For today, even jobs are rationed.

At the same time, Israel is attempting to maintain a high standard of living for its people.

But in spite of the huge problem they face, the people of Israel are demonstrating determination and willingness to make whatever sacrifices are necessary. The progress they have already made in the short period that their country has been a state is almost unbelievable. Today Israel looks like, and is, a modern Western nation. With highly trained personnel and with a thorough knowledge and understanding of the problem it faces, and a deep appreciation of agriculture by its government, Israel struggles to build a modern country in an ancient land.

Egypt's New Edfina Barrage

By C. F. CONOVER

In its new Edfina Barrage, Egypt has at last found a solution to an age-old problem—how to keep the salt waters of the Mediterranean out of the irrigation canals of the Nile. In so doing, it will simplify the irrigation of 100,000 acres of some of its most productive farm land, highly important in a country like this, where the population grows rapidly.

The new dam is actually intended to serve three purposes. One side—that toward the sea—will hold back the salt waters and keep them from entering irrigation canals. The other—that toward the river—will force the Nile waters to back up and keep them at floodtide levels (about 7 feet above slack water) so that the surrounding area can be readily irrigated. At the same time, the barrage will facilitate the depositing of land-building silt.

Lower Egypt has its uncommon irrigation problem because the Nile River moves almost at sea level and very slowly during the last 20 miles or so of its flow. The river is actually fighting the salt water of the sea, which is pushing upward along its course. During the flood season, when the volume of water flowing down the Nile is large, the fresh water of the river pushes onward and does not become contaminated with the salt sea water until it is within 10 to 15 miles of the sea. When the river is not in flood, the salt water pushes some 30 miles farther up the river channels, making the water unfit for irrigation purposes in that area.

The Egyptian Government long recognized the need for modern barrages at the two mouths of the Nile. After some years of study the plan got under way, in 1946, under the guidance of Abdul Aziz Bey. The Department of Public Works began actively to draw up specifications for a barrage on the Rosetta, one of the two branches of the Nile. After exhaustive investigations of the movements of both the Nile and sea waters, it was decided that the barrage should be built at the small village of Edfina, whence it takes its name.

At Edfina, the Nile is 1,600 feet wide, and the depth of the water at high flood is at least 23 feet. The barrage itself consists of 46 granite-faced concrete arches about 30 feet high and 33 feet wide; in each is placed an iron door weighing more than 15 tons, which can be lowered or raised to control the flow of water. At the end of the barrage is a large drawbridge, which may be opened to permit river traffic. A railway runs along the top of the barrage, with movable cranes to open the doors.

With the exception of the doors, which were imported from Germany, practically all materials used in the dam were obtained locally. It is interesting to note that the quarries in Upper Egypt from which the granite for the barrage was obtained are the same quarries that furnished most of the hard granite surfaces used in the pyramids when they were built some 6,000 years ago. Then, the stones were floated down the Nile on barges; now, they are brought by rail.

Near the dam is a farm that belongs to Moghazi Pasha. It is an excellent example of what fresh water means in Egypt. Some 50 years ago, the Pasha's father bought 7,000 to 8,000 acres of land between Edfina and the city of Damanhour. At the time, this land was considered practically worthless and sold for very little. The Nile waters near the farm were contaminated with salt sea water and of no use for irrigation. By building temporary earthen dams each year when the Nile was in flood, and the water fresh, the Pasha gradually obtained good soil, until now close to 7,000 acres are under cultivation. Cotton is the chief crop, but nearly 30 percent of the land is planted in grain, while enough vegetables are grown to take care of the needs of some 4,000 families who now work on the plantation. The new barrage will relieve the Pasha of his continuous fight against the river. As already mentioned it will also facilitate the irrigation and cultivation of close to 100,000 acres of other land in the same area. The Pasha is planning to erect social centers on his land and to provide modern types of housing for the people who work on his estate. In a few years, the land that half a century ago was wilderness will become a highly modern farm, with comfortably housed workers.

Plans have already been drawn up for a similar type of dam on the other branch of the Nile below Damietta at a village called Faraskour, and the Ministry of Public Works has made provisions in the new 5-year budget for funds to carry it forward.

Mr. Conover is Assistant Attaché, American Embassy, Cairo, Egypt.

Netherlands Agricultural Policies —Part II*

by KAREN J. FRIEDMANN

Plans for an Economic Union of Belgium, the Netherlands, and Luxembourg took shape during World War II and have been further developed in the postwar years. A common tariff for the area as a whole—the Benelux area—freely interchangeable currencies, and the free movement of labor, capital, and goods within the area are the ultimate aims.

Since Belgium is on an import basis for a number of Dutch agricultural export products, for instance, butter and cheese, the advantage of the Benelux Union to Dutch agriculture is obvious. This Union would leave the Belgian market open to Dutch exports while the common Benelux tariff would keep competing countries out. However, this is precisely what Belgian agriculture fears and objects to and the reconciliation of Belgian and Dutch agricultural policies is proving one of the great problems in bringing about the complete Economic Union of the Benelux countries.

The Belgians contend that it is unreasonable to expose Belgian agriculture, which has not had the benefit of the subsidies, etc. that Netherelands agriculture has enjoyed, to the competition of Dutch agriculture. Wages, rents, prices of raw materials, all are higher in Belgium than in the Netherlands. Though it may well be, for instance with respect to dairy products, that the Netherlands cost of production would be lower even without subsidies, the fact remains that Dutch costs *are* lower, and it is conceded that a period of adjustment is required before completely free trade in agricultural products can be permitted in the Benelux area. In the meantime, a piecemeal solution is being sought commodity by commodity, and efforts are directed toward more uniformly efficient methods of production in the two countries. Since agriculture in Luxembourg is much less favorably situated than in either Belgium or the Netherlands, it has been agreed that a special regime may be set up there.

The following agreements and developments are indicative of the problems encountered and the solutions sought:

On May 9, 1947, the Ministers of Agriculture of the Netherlands, Belgium, and Luxembourg met in Brussels and arrived at an agreement that was designed to permit a gradual transition toward the free interchange of goods among the Benelux countries. It was realized that a sudden opening up of the Belgian market to Dutch producers was out of the question, but the agreement was meant to be temporary. This agreement provided for the fixing of minimum prices below which each of the three countries need not permit imports. It also permitted each country to take such measures as were necessary to support prices, including import quotas, licenses, and embargoes. The minimum price provision has been a very important device and in its effects it is equivalent to tariff protection of Belgian agriculture.

On January 1, 1948, the first stage of the Benelux Union, namely the Tariff Union, came into being. The minimum price provisions, however, limited the importance of this event to Dutch agriculture.

At a conference in The Hague in March 1949, the Committee on Agriculture Food Supply and Fishing of the Economic Union Council was charged with the responsibility of finding a solution that would replace the May 9, 1947, protocol. General aims of agricultural policy as stated on this occasion were the same as those formulated by the Dutch and quoted previously, namely, security of existence for farmers and increased agricultural productivity.

The outcome of this assignment was recorded in Annex 2 to the Protocol of October 16, 1949. It indicates that it is essential to reduce costs of production in order to expand the markets both at home and abroad. A policy of subsidies to further technical developments in agriculture may be advisable to hasten this cost reduction. The Dutch system applied through two decades of import license taxes (monopoly fees) and subsidies on imports and exports was considered efficient and was recommended. The Dutch device of an Agricultural Equalization Fund, into which import fees are paid and out of which subsidies, etc. are financed, was also recommended for Benelux. At

Mrs. Friedmann is Agricultural Economist, European Division, Regional Investigations Branch, OFAR.

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* Part I of this article appeared in the June issue of *Foreign Agriculture*.

the same time the Belgian system of tariff protection was deemed desirable to insure the home market for Benelux agriculture.

The Committee on Agriculture, Food Supply and Fisheries was given the task of working out the manner in which such a set-up for Benelux agriculture could be established. However, definite decisions on these vital questions—whether the Dutch or Belgian approach to agricultural policies shall prevail for the area as a whole—do not appear to have been made. It was also stated in the protocol that the measures restricting free trade in agricultural products between the Benelux countries will be progressively abolished as competitive conditions in the Netherlands, Belgian, and Luxembourg markets are made more uniform.

The agricultural policies of the Benelux area were again dealt with at a conference in Luxembourg in October 1950. The results were hailed as a step in the direction of liberalization of trade in agricultural products within the Benelux area. The list of commodities subject to minimum price provisions was reduced, and procedures were established for determining and applying minimum prices considered to favor a trend toward freer trade within the area. Belgian farmers, however, objected strongly to some of these provisions and insisted on stronger guarantees against sales of Dutch products below minimum prices in Belgium. This was incorporated in a new protocol of December 29, 1950. Thus it appears that the desired goal of a free flow of agricultural products within the area is still a long way from fulfillment, and that the protection afforded by the minimum price concept is strongly entrenched, for it will certainly be a long time before competitive conditions in the Netherlands, Belgium, and Luxembourg become uniform.

Letter from Paris

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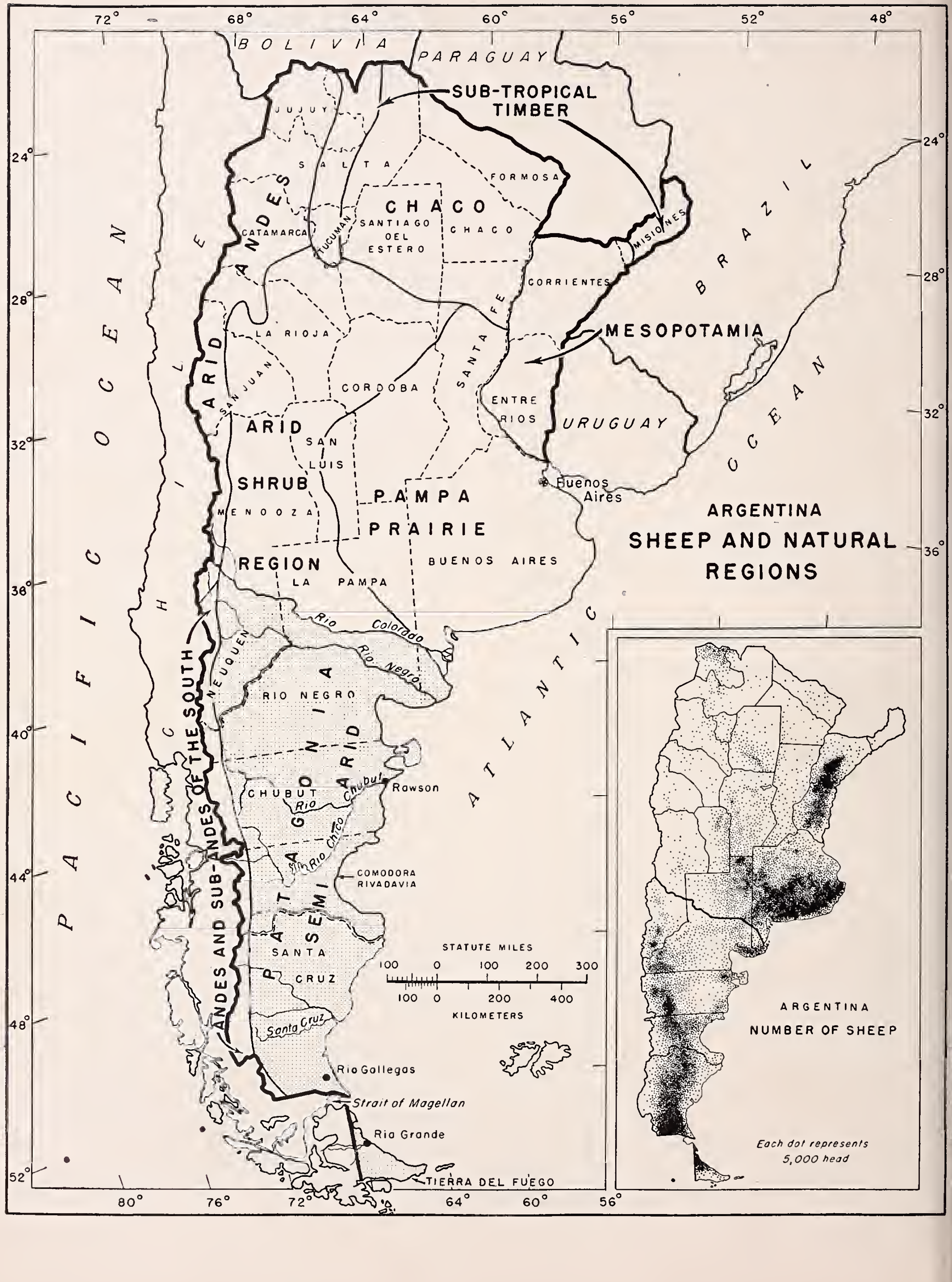
The annual Salon de la Machine Agricole was recently held at the Port de Versailles. Only since the Second World War has farm machinery become of industrial importance here. Before the war, in the nearby village of Orgeval, for instance, one tractor was registered at the *mairie;* now there are a hundred and nine, all of French make. Farm machines are also of political importance here and all over Europe. Behind the Iron Curtain, one Soviet poster shows a picture of cannons with the caption 'This is what the Americans offer you,' and a picture of a Russian wheat thresher with the caption 'And this is what the Soviet offers you.' The Soviets had the biggest display at the Farm Machine Salon, and they had wanted an even bigger one. They had asked for nine thousand square feet of space but were informed by the French Government that this was a machine, not a propaganda, show, and settled, with evident displeasure, for their own separate, modernist building, though everyone else, including the U. S. A., had only part of a building. The Soviet building was decorated inside with giant portraits of Lenin and Stalin; outside, it had a kind of corrugated-iron finish that made it look as if it had been assembled from iron curtains. To some former American farmers whom we fortunately have in our Paris Embassy, the Soviet machines were suspiciously familiar. Investigation proved that nearly all the Soviet's vaunted anti-rearmament farm machines displayed were copies of American models that are now obsolete in America. An Embassy summing up stated, 'Soviet stationary thresher is of similar design to those manufactured in States in 1920. Soviet steel-wheel tractor is almost identical replica of Farmall No. 1530, discontinued about 1930 by International Harvester Company. Soviet tractor-pulled seven-metre combine is patterned after those made by John Deere and Company. Soviet self-propelled combine also is close replica of model manufactured by Massey Harris Company. Note that this Soviet machine at Salon was set at zero, which would crush, not thresh, the grain; this was error in salesmanship display. Soviet crawler tractor seems fairly pure Soviet design; mechanism is very crude, lacking any type protection from weeds, trash . . . probably would not stand up long.'

At the Salon, crowds of French farmers, in their best clothes, at first stared at the Soviet machines, usually with the fascination they might have felt looking at exotic, dangerous creatures in a zoo; then, at second glance, many of them guffawed. The day this writer was there, one old fellow in corduroy hit the nail on the head. He sardonically shouted, 'Bravo! You are able to imitate what *les Yankees* did ten years ago.' Inside the Soviet building, under Stalin's eye, was displayed a conventional *livre d'or,* or guestbook, for signatures. Among the predominantly anti-Communist French farmers, the irresistible joke was always the same; 'Look. The Soviets have a golden book, just like the capitalist countries.' This writer saw one serious young peasant carefully scrawl in the book, 'The French peasant does not envy you,' and sign his name with a flourish.—GENET.



ARGENTINA
SHEEP AND NATURAL REGIONS

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